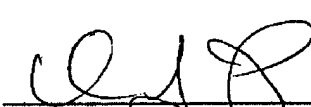


Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)

Approved for use through xx/xx/200x. OMB 0651-00xx  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional)  GP-303152	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" (37 CFR 1.8(a))  on <u>3/6/2006</u>  Signature _____  Typed or printed name <u>Vincent A. Cichosz</u>		Application Number  10/730,440	Filed  12/8/2003
First Named Inventor  Chandra Sekhar Namuduri		Art Unit  3683	
Examiner  Melody M. Burch			
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p>			
I am the  <input type="checkbox"/> applicant/inventor.  <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)  <input type="checkbox"/> attorney or agent of record. Registration number _____  <input checked="" type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 <u>35,844</u>		<div style="text-align: center;">             _____            Vincent A. Cichosz            Typed or printed name   <u>248.676.2798</u>            Telephone number   <u>3/6/2006</u>            Date         </div>	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.			
<input type="checkbox"/> *Total of _____ forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**MAR 06 2006****CERTIFICATION OF FACSIMILE TRANSMISSION**

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

  
\_\_\_\_\_  
Vincent A. Cichosz3/6/2006  
\_\_\_\_\_  
(Date)**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/730,440  
Applicant : Chandra Sekhar Namuduri  
Filed : 12/8/2003  
TC/A.U. : 3683  
Examiner : Melody M. Burch  
Docket No. : GP-303152

Commissioner for Patents  
Alexandria, VA 22313-1450

**Pre-Appeal Brief Request for Review**

Sir:

In response to the Office Action dated 1/11/2006 and in conjunction with the Notice of Appeal filed herewith, please consider the following remarks.

**Remarks**

Subsequent to the Office Action issued on 1/11/2006, claims 1-33 are pending in the Application. Claims 5, 10, 15, 17 and 28 have been withdrawn from consideration. Claims 19, 23, 30 and 32 are allowed. Claims 1-4, 6-9, 11-14, 16, 18, 20-22, 24-27, 29, 31 and 33-36 stand rejected under 35 USC 103(a). It is the rejected claims that are the subject of this Request for Review.

Essentially, the present invention relates to a linear to rotary damping apparatus which

GMC3105

1 of 5

employs magnetorheological or electrorheological fluid to continuously vary apparatus damping. One intended application is in vehicle suspensions (e.g. shock/struts) wherein relatively long linear travel is characteristic and wherein active suspensions require continuously adjustable damping characteristics to handle vehicle dynamic conditions. Thus, claim 1 which is representative recites:

1. An apparatus operable to provide damping between a sprung mass and an unsprung mass, comprising:

a linear to rotary conversion mechanism comprising a translatable member, having a first attachment point, and, adapted for generally linear translation in a forward and a reverse direction and a rotatable member comprising a rotatable shaft that is rotatably coupled to the translatable member; wherein translation of the translatable member in one of the forward or the reverse directions produces a forward or a reverse rotation of the rotatable member and shaft, respectively; and

a damping mechanism comprising a second attachment point, a hub that is fixed to the shaft, a means for generating a single electromagnetic field in response to an applied electrical signal that may be continuously varied in response to an input signal that is representative of a desired damping force and a fluid having a viscosity that may be continuously varied by application of the electromagnetic field that is in touching contact with the hub, wherein application of the variable electromagnetic field to the fluid produces changes in the viscosity of the fluid that in turn provides variable resistance to rotation of the hub and translation of the translatable member.

USPN 4946131 to Weyand (*Weyand*) and USPN 5878997 to Miesner (*Meisner*) form the basis for all obviousness rejections and the only basis for all obviousness rejections of the independent claims. Some obviousness rejections of certain dependent claims further rely upon USPN 6,740,125 to Mosler and US Patent Application Publication 2003/0030523 to Bell et al.

Weyand discloses a passive, calibratable damper arrangement for damping linear movements for use on a safety valve. The damper includes a damping part 36 including a hub section 34 and wall 32. Wall 32 resides within gaps filled with viscous silicone grease. Weyand does not disclose changing the viscosity of the fluid (i.e. of the silicone grease). Hub section 34 is mounted by a bearing or threads which allow rotary motion only. Hub section

GMC3105

2 of 5

34 has internal threads 40 that cooperate with external thread section 12 of a valve spindle 10. The valve spindle 10 moves in a linear manner and the cooperating threads 12 and 40 converts the linear motion to rotary movement of the damping part 36. Weyand does not disclose a rotatable shaft that is rotatably coupled to the translatable member or a damping mechanism comprising a hub that is fixed to the shaft. Weyand is primarily concerned with setting the damping to a predetermined intensity (col. 3, ll. 3-8). In other words set and forget. It does not teach or suggest the desirability of continuous variability of damping in its application. Damping intensity is set by positioning a lower damping part 18 which affects immersion depth of the rotary damper with threaded rings 26 and 28.

Miesner discloses an active magnetorheological damper. The damper includes an inner field coil 120, an outer field coil 130 and a magnetorheological fluid filled narrow channel 60 therebetween. Miesner does not disclose an outer surface of a hub and sidewall of a housing defining a channel therebetween in which a single electromagnetic field is generated and a fluid located within the channel having a viscosity that can be varied by application of the electromagnetic field. Miesner is primarily concerned with the conflicting goals of un-typically high magnetic flux densities and short response times in a magnetorheological device. Miesner teaches an electro-magnetic structure that, by design, results in very little magnetic flux present in its metal parts, thereby avoiding undesirable magnetic saturation, excessive stored energy and excessive response times when switching between damping and non-damping states. Significantly, Miesner discloses the damper to teach the cooperative dual-coil arrangement whereby each coil generates a separate respective magnetic field. The arrangement is specifically designed such that the magnetic fields substantially cancel out everywhere within the damper except within the narrow channel between the individual coils.

Basically, the prosecution to date has hung up on clear errors concerning elements of the claim limitations that are not met by the references and failure on the part of the examiner to show proper motivation for making modifications to the references in the obviousness rejections. The discussion set forth below is merely exemplary of errors each sufficient to support a Panel decision directing allowance of all rejected claims and is not intended to

GMC3105

exhaust, supplant, prejudice or limit in any manner applicants' rights or arguments in any appeal to the Board of Patent Appeals and Interferences.

First, throughout the prosecution, the examiner has held that the hub section 34 of Weyand corresponds to the rotatable shaft of applicants' invention. (See e.g., office action mailed 1/11/2005, p.4, para.7; office action mailed 6/15/2005, p.9, para.8; office action mailed 8/26/2005, p.2, para.3). This is not a matter of simple interpretive differences; rather, it is an examiner's position of such clear error that applicants seek this review and correction by this Panel short of Appeal to the Board. In fact, Weyand specifically describes item 34 of the drawings as *hub section*. Applicants have consistently argued that the hub section 34 of Weyand does not have proper correspondence to *rotatable shaft that is rotatably coupled to the translatable member* as set forth in applicants' claim 1 for example. And, applicants pointed out the error that such a position was not supportable since it was inconsistent with the specification, ran counter to the claim terms plain meaning, and the meaning of rotatable shaft is clear and unquestionable thus to be construed to mean exactly what it says. (See e.g., applicants' response mailed 3/15/2005, p. 14, ll. 5-7; applicants' response dated 8/12/2005, p. 13, l.16 through p. 14, l. 23).

Second, the office action mailed 8/26/2005 while apparently maintaining that the hub section 34 of Weyand corresponds to the rotatable shaft of applicants' invention (p.2, para.3), now also shifts gears with yet a new interpretation of Weyand at p. 8, ll. 3-11 wherein the hub 34 is now deemed to be the translatable member of applicants invention and the spindle 10 is deemed to be the rotatable shaft of applicants' invention. So now hub 34 is interpreted as applicants' *translatable member . . . adapted for generally linear translation*. But translation of applicants' *translatable member . . . produces . . . rotation of the rotatable member and shaft*. However, Weyand is clear that spindle 10 is a linear motion spindle that imparts rotation to the hub 34, not vice-versa. It would appear that the spindle 10 is now interpreted as the rotating member (e.g. rotatable shaft). However, the translatable member of applicants' invention is not also the hub of applicants' invention. Therefore, if the hub 34 is now the translatable member in accord with the reinterpretation, then it cannot also be the rotatable member. Also, spindle 10 is now interpreted as the shaft, and applicants' invention

GMC3105

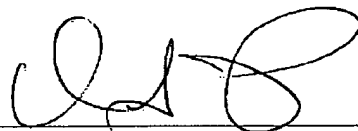
calls for a *hub that is fixed to the shaft*. If hub 34 is the translatable member and not the hub of applicants' invention, then where is the hub now in Weyand? This reinterpretation and application to applicants' invention is clearly erroneous.

Third, as pointed out in applicants' first response to the obviousness objections mailed 3/15/2005 at p. 15, l. 22 – p. 19, the examiner has failed to provide the requisite level of teaching, suggestion or motivation supporting the combination of Weyand and Meisner. More specifically, applicants have pointed out that the motivation suggested by the examiner circumvents the teachings of Weyand which are specifically directed at providing the very mechanical structure enabling adjustments that the proposed modifications seek to displace. (Sec p. 17, ll. 1-7). And, the proposed combination renders at least Weyand inoperable for its intended purpose of providing simple and precise calibration of the damping apparatus. (See p. 17, ll. 8-23).

Applicants respectfully request that this Panel withdraw all obviousness rejections and direct the examiner to allow all claims to proceed to issue.

Any fees associated with this response may be charged to General Motors Deposit Account No. 07-0960.

Respectfully submitted,



Vincent A. Cichosz  
Registration No. 35,844  
Telephone: (248) 676-2798

GMC3105

5 of 5